APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/659,457	09/10/2003	Murthi Nanja	Intel/17226	4880

			EXAMINER
34431	7590	10/23/2006	PHAM, CHRYSTINE

HANLEY, FLIGHT & ZIMMERMAN, LLC
20 N. WACKER DRIVE
SUITE 4220
CHICAGO, IL 60606

ART UNIT	PAPER NUMBER
2192	

DATE MAILED: 10/23/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

	Application No.	Applicant(s)
Office Action Summary	10/659,457	NANJA ET AL.
	Examiner	Art Unit	
	Chrystine Pham	2192	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>10 September 2003</u>.

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) <u>1-30</u> is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) <u>1-30</u> is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on <u>10 September 2003</u> is/are: a)☒ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All   b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date <u>05/23/06, 03/21/05</u>.

4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.

5) ☐ Notice of Informal Patent Application

6) ☐ Other: _____.

DETAILED ACTION

This action is responsive to application 10/659457 filed on September 10th 2003.

Claims 1-30 are presented for examination.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form

the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-3, 5-6, 11, 17-20, 23 and 28 rejected under 35 U.S.C. 102(e) as being

anticipated by Nanja et al. (US 2004/0123278 A1, "Nanja").

Claim 1

Nanja teaches a method of executing a non-native software instruction (see at least

FIG.2 & associated text), the method comprising:

receiving the non-native software instruction at a device (see at least *16, 18, 24* FIG.1 &

associated text); generating a first native software instruction from a first instruction set

based on the non-native software instruction, the generation of the first native software

instruction occurring at the device (see at least *64* FIG.2 & associated text); executing

the first native software instruction at the device (see at least *58* Fig.2 & associated

text); generating a second native software instruction from a second instruction set

based on the non-native software instruction, the generation of the second native

software instruction occurring at the device (see at least *60, 64* FIG.2 & associated

text); and executing the second native software instruction at the device (see at least *58*

FIG.2 & associated text).

Claim 2

The rejection of base claim 1 is incorporated. Nanja further teaches counting a number

of times the first native software instruction is executed; and comparing the number of

times the first native software instruction is executed to a threshold, wherein generating

the second native software instruction is in response to one of (i) the number equaling

the threshold, and (ii) the number exceeding the threshold (see at least *frequently*

invoked methods or objects, JIT compilers paragraph [0006]).

Claim 3

The rejection of base claim 2 is incorporated. Nanja further teaches inserting

instrumentation to count the number of times the first native software instruction is

executed (see at least *frequently invoked methods or objects, JIT compilers* paragraph

[0006]).

Claim 5

The rejection of base claim 1 is incorporated. Nanja further teaches wherein receiving the non-native software instruction at the device comprises receiving an intermediate language instruction at the device (see at least *compiled code 16, intermediate code* paragraph [0014]).

Claim 6

The rejection of base claim 1 is incorporated. Nanja further teaches wherein receiving the non-native software instruction at the device comprises receiving Java byte code at the device (see at least *bytecodes, Java* paragraph [0014]).

Claim 11

The rejection of base claim 1 is incorporated. Nanja further teaches wherein generating the first native software instruction comprises compiling the non-native software instruction at the device using a just-in-time compiler (see at least *24* FIG.1 & associated text).

Claim 17

Claim recites limitations, which have been addressed in claims 1-3, 5-6 and 11, therefore, is rejected for the same reasons as cited in claims 1-3, 5-6 and 11.

Claims 18-20, 23, 28

Claims recite limitations, which have been addressed in claims 2-3, 5, 11, therefore, are

rejected for the same reasons as cited in claims 2-3, 5, 11.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 4 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nanja

in view of Cierniak (US 2004/0168028 A1).

Claim 4

The rejection of base claim 2 is incorporated. Nanja does not expressly disclose

receiving the threshold via a mobile runtime configuration parameter. However,

Cierniak discloses a method of wirelessly receiving non-native instructions at a

handheld device and just-in-time compiling (i.e., runtime configuration parameteter)

them to generate native instructions on the handheld device (see at least FIG.2 &

associated text; *mobile devices, native code, JIT compiler* paragraph [0005]; *small*

memory computing system, JIT paragraph [0016]). Nanja and Cierniak are analogous

art because they are both directed to generating native code from intermediate

language instructions. It would have been obvious to one of ordinary skill in the

pertinent art at the time the invention was made to incorporate the teaching of Cierniak

into that of Nanja for the inclusion of mobile runtime configuration parameter. And the

motivation for doing so would have been to provide faster execution (via native code) of

the non-native instructions on handheld devices (see at least Cierniak paragraph

[0004]).

Claim 7

The rejection of base claim 1 is incorporated. Claim recites limitations, which have

been addressed in claim 4, therefore, is rejected for the same reasons as cited in claim

4.

Claims 8-10, 12-16, 21-22, 24-27, 29 and 30 are rejected under 35 U.S.C. 103(a) as

being unpatentable over Nanja in view of Souloglou et al. (US 2002/0100030 A1,

"Souloglou").

Claim 8

The rejection of base claim 1 is incorporated. Nanja does not expressly disclose

wherein the first native software instruction comprises an X-bit wide instruction, the

second native software instruction comprises a Y-bit wide instruction, and X is less than

Y. However, Souloglou discloses a method of optimizing received intermediate

language instructions and generating native instructions therefor (see at least

paragraphs [0002]-[0003]) wherein the first native software instruction comprises an X-

bit (i.e., 16-bit or Thumb) wide instruction, the second native software instruction

comprises a Y-bit (i.e., 32-bit or ARM) wide instruction, and X is less than Y (see at

least *complex expressions, 32 bit operations, 16 bit operations* paragraphs [0048]-

[0056]). Nanja and Souloglou are analogous art because they are both directed to

generating native code from intermediate language instructions. It would have been

obvious to one of ordinary skill in the pertinent art at the time the invention was made to

incorporate the teaching of Souloglou into that of Nanja for the inclusion of generating

16-bit and 32-bit native instructions. And the motivation for doing so would have been

provide native code representing operations of different sizes (i.e., 16-bit or 32-bit) (see

at least Souloglou paragraphs [0054]-[0055]).

Claim 9

The rejection of base claim 1 is incorporated. Souloglou further teaches wherein the

first native software instruction comprises a 16-bit wide instruction, and the second

native software instruction comprises a 32-bit wide instruction (see at least *complex

expressions, 32 bit operations, 16 bit operations* paragraphs [0048]-[0056]).

Claim 10

The rejection of base claim 1 is incorporated. Souloglou further teaches wherein the

first native software instruction comprises a Thumb instruction, and the second native

software instruction comprises an ARM instruction (see at least *complex expressions,

32 bit operations, 16 bit operations* paragraphs [0048]-[0056]).

Claim 12

The rejection of base claim 1 is incorporated. Souloglou further teaches configuring a

first code optimization option prior to generation of the first native software instruction,

the first code optimization option causing smaller code to be generated; and configuring

a second code optimization option prior to generation of the second native software

instruction, the second code optimization option causing faster code to be generated

(see at least paragraphs [0004], [0077]).

Claim 13

The rejection of base claim 1 is incorporated. Souloglou further teaches wherein

generating a first native software instruction comprises generating a first plurality of

native software instructions, and generating a second native software instruction

comprises generating a second plurality of native software instructions, the method

further comprising: counting a first number of instructions contained within the first

plurality of native software instructions; counting a second number of instructions

contained within the second plurality of native software instructions; and comparing the

first number of instructions and the second number of instructions, wherein executing

the first native software instruction is in response to one of (i) the second number of

instructions equaling the first number of instructions and (ii) the second number of

instructions exceeding the first number of instructions (see at least paragraphs [0109],

[0084]).

Claim 14

The rejection of base claim 13 is incorporated. Souloglou further teaches comparing

the first number of instructions and the second number of instructions, wherein

executing the second native software instruction is in response to the first number of

instructions not exceeding the second number of instructions by more than a

predetermined threshold (see at least paragraphs [0109], [0084]).

Claims 15-16, 21-22, 24-27, 29-30

Claims recite limitations, which have been addressed in claims 2, 8-10, and 13-14,

therefore, are rejected for the same reasons as cited in claims 2, 8-10 and 13-14.

Conclusion

Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Chrystine Pham whose telephone number is 571-272-

3702. The examiner can normally be reached on Mon-Fri, 8:30am-5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Tuan Q. Dam can be reached on 571-272-3695. The fax phone number for

the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent

Application Information Retrieval (PAIR) system. Status information for published

applications may be obtained from either Private PAIR or Public PAIR. Status

information for unpublished applications is available through Private PAIR only. For

more information about the PAIR system, see http://pair-direct.uspto.gov. Should you

have questions on access to the Private PAIR system, contact the Electronic Business

Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO

Customer Service Representative or access to the automated information system, call

800-786-9199 (IN USA OR CANADA) or 571-272-1000.

CP
October 11, 2006

TUAN DAM
SUPERVISORY PATENT EXAMINER